Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems	)	ET Docket No. 04-37

COMMENTS OF AT&T CORP.

In accordance with the Commission's Notice of Proposed Rulemaking, FCC 04-29, in the above-entitled proceeding released February 23, 2004, as published in the Federal Register on March 17, 2004 ("*NPRM*" or "*Notice*"), AT&T Corp. ("AT&T") submits the following comments regarding Access BPL.[1]

AT&T commends the Commission for its efforts to promote the development and deployment of an alternative broadband path to American consumers. AT&T agrees with the Commission that BPL "offers the promise of a new method for delivery of broadband services to residential, institutional, and commercial users." *Notice* ¶ 30. AT&T further agrees that "BPL systems can operate successfully under the

[1] The Commission has tentatively defined "Access BPL" as a "carrier current system that transmits radio frequency energy by conduction over electric power lines owned, operated, or controlled by an electric service provider. The electric power line may be aerial (overhead) or underground." *Notice* ¶ 32. Throughout these comments AT&T will use the term "BPL" to refer to Access BPL.

non-interference requirements of the Part 15 rules." *Id.* ¶ 31. At the same time, however, successful deployment of BPL will require time, effort, and investment. To avoid putting unnecessary obstacles in the path of such deployment, the Commission should impose on this nascent technology only those obligations shown to be necessary to protect against harmful interference. Based on the record established in the BPL *Notice of Inquiry*,[2] compliance with the existing Part 15 rules should resolve interference concerns and the Commission should not mandate development and implementation of additional interference mitigation capabilities unless actual marketplace experience shows they are required.

I. BPL Can Be A Valuable Alternative Broadband Path.

Today's broadband marketplace is at best a duopoly of cable modem service and ILEC-provided DSL service. Indeed, many Americans do not have even that choice of broadband providers. The lack of a multi-provider broadband marketplace has had, and will continue to have, a harmful effect on residential and small business customers. According to a recent report by Goldman Sachs, DSL is expected to be at parity with cable modem service with respect to new broadband subscribers by the end of this year.[3] Once such parity is reached, the Bells and the cable companies will settle into a 50/50 duopoly, because both sides will "recognize the benefits of a duopoly structure, and the negative implications of trying to achieve greater than a 50% share in the context

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2 *Inquiry Regarding Carrier Current Systems Including Broadband over Power Line Systems*, ET Docket No. 03-104 (Apr. 28, 2003) ("*NOI*").

3 Goldman Sachs, *Telecom Services: Wireline/Broadband* (Apr. 16, 2004) at 7.

of a duopoly environment."[4] This lack of pervasive broadband competition denies consumers today the benefits of choice, innovation, and lower prices for broadband and other services. For example, the lack of robust broadband competition permits the Bells to cancel otherwise profitable DSL service in order to protect their voice monopoly. As a senior BellSouth representative told an equity market analyst: "Essentially, it's a huge disincentive for customers to use a CLEC for voice if they are not able to use our DSL service."[5]

BPL promises to help end this duopoly and bring the benefits of robust broadband competition to millions of customers. The record in the *NOI* demonstrates that BPL is capable of providing data speeds comparable to, or better than, those delivered via DSL or cable modem service.[6] And, as a broadband platform, BPL will, when deployed commercially, provide another means of providing voice over Internet protocol ("VoIP") applications so that VoIP providers may offer a facilities-based voice alternative to the Bell local exchange monopoly. For all of these reasons, AT&T supports the rapid deployment of BPL.

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4 *Id.*

5 Medley Global Advisors, Equity Brief, *BellSouth: DSL/Voice Bundling Faces Regulatory Obstacles* (Jan. 14, 2004) at 3.

6 *See, e.g.*, Ambient NOI Comments (data rates to homes of over 3 Mbps); Ameren NOI Comments (symmetrical transmission rates competitive with other broadband services); Amperion NOI Comments (data transmission speeds of 4-5 Mbps to customers using WiFi); Main.net NOI Comments (sustainable service levels of 1.5-10 Mbps); PowerWAN NOI Comments (greater than 1 Mbps of data speed per user is typically supported); Southern Companies NOI Comments (transmission rates range from 250-500 kbps to speeds that are twice as fast as current generation of cable modems).

II. Compliance With The Part 15 Rules Should Resolve Interference Concerns.

In the *Notice,* the Commission proposes "to apply the existing Part 15 emission limits for carrier current systems to Access BPL systems," reasoning that the likelihood of harmful interference to radio services "is low under the current limits, and that where such interference does occur, there are remedies that the Access BPL operator can employ to eliminate such interference." *Notice* ¶ 33. AT&T agrees with the Commission that compliance with the Part 15 emission limits and other Part 15 requirements should mitigate harmful interference to other users of the spectrum.

In the *NOI*, current and future providers of BPL equipment and services established that the provision of BPL in compliance with the existing Part 15 rules removes any significant risk of interference to other spectrum users. Thus, the record establishes that a properly engineered and maintained BPL system should comply with the existing Part 15 emission limits.[7] This compliance, coupled with Part 15's mandate that harmful interference must be eliminated, protects other spectrum users against harmful interference.[8] The record evidence thus supports adoption of the Commission's proposal to apply the existing Part 15 emissions limits to BPL.

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[7] *See, e.g.*, Amperion NOI Comments at 5 (BPL equipment complies with existing Part 15 emission rules); PPL Telcom NOI Comments at 6-8 (BPL is safe, will comply with Part 15, and will not interfere with licensed users); UPLC NOI Comments at 10 (BPL systems comply with Part 15 limits, which protect against interference).

[8] *See, e.g.*, Electric Broadband NOI Comments at 3 (BPL devices that comply with existing Part 15 rules will not cause harmful interference); HomePlug Alliance NOI Comments at 1 (Part 15 has proven effective, and there is no need for additional or changed rules); PowerWAN NOI Comments at 7-8 (existing Part 15 rules are adequate); Southern Companies NOI Comments at 18 (existing Part 15 rules impose

The Commission also proposes to require BPL providers to incorporate additional interference mitigation capabilities into their BPL equipment. For example, the Commission tentatively proposes that BPL operators incorporate capabilities such as the capability to reduce power levels on a dynamic or remote controlled basis and "the ability to include or exclude specific operating frequencies or bands." *Notice* ¶ 40. The Commission also proposes that BPL devices incorporate a "shut-down feature" that would deactivate units found to cause harmful interference. *Id.* ¶ 42. At the same time, the Commission recognizes that imposition of such requirements may delay or hinder BPL deployment. The Commission therefore asks what time period should be allowed for BPL systems to be brought into compliance with any requirements adopted as a result of the rulemaking. *Id.*

AT&T believes the Commission should refrain, at this time, from imposing any specific interference mitigation requirement. In the first place, adoption of such requirements has not been shown to be necessary. Mandating the design, development, and implementation of any such non-warranted requirement would unduly delay prompt deployment of BPL. Furthermore, under the Commission's rules, and as proposed in the *Notice*, all BPL providers must comply with the Part 15 emission limits. In the event that a BPL system causes harmful interference – which, based upon the *NOI* record, should be an isolated occurrence – the operator is required to eliminate the interference. The operator can do so in a variety of ways, *e.g.*, by reducing the power

"significant limitations intended to protect licensed users of the spectrum"). Indeed, Ambient contends that the existing Part 15 rules could be relaxed without causing harmful interference in order to increase BPL data transmission rates. Ambient NOI Comments at 5.

through the affected portion of the system, by ceasing to use specific portions of the spectrum (frequency notching), or in extreme circumstances by effectively "shutting down" the customer's service, which may or may not involve "deactivation" of the actual unit. It is the BPL provider, however, who is in the best position to know what remedy would be appropriate in a particular situation. This decision would be based upon the frequency involved, the equipment deployed, the geographic scope of the deployment, and the surrounding topography. Instead of attempting to specify, in advance, particular actions that operators must take in response to what should be rare instances of interference, or particular functionalities that operators must design into their equipment, the Commission should allow operators the latitude to determine how best to meet Part 15's mandate, especially in the initial deployment stage.

BPL is a nascent technology that holds great promise. As a new technology, however, its initial commercial deployment will be limited both geographically and with respect to numbers of customers served. AT&T submits that the Commission should refrain from imposing any specific equipment rules – other than Part 15 compliance – upon BPL providers and refrain from mandating implementation of any specific interference mitigation capabilities until experience has been gained with actual commercial deployments. Such experience would be the best evidence as to whether there is any actual need for mandated interference mitigation capabilities, and, if necessary, which such capability, if any, may be most appropriate for global adoption. At the same time, the risk of harmful interference during this period would be substantially eliminated through compliance with the Part 15 emission limits as well as by the limited scope of the initial deployment.

The Commission also proposes that BPL operators submit system information to an industry-operated entity so that the operator can be identified in the event of harmful interference. *Notice* ¶ 43. AT&T agrees that such a database could be helpful in pinpointing the source of any BPL-caused interference. However, such a "publicly accessible" database could create significant competitive concerns. Unfettered access to such a database would allow the entrenched broadband providers to determine when and where introduction of competitive BPL services was planned. AT&T therefore recommends that, if such a database is mandated, the Commission adopt measures to protect providers' confidential deployment plans.

Finally, in its recently released technical report on potential BPL interference,[9] the National Telecommunications and Information Administration ("NTIA") concludes that BPL networks "can be successfully implemented under existing [Part 15] field strength limits," but recommends modifications to the BPL compliance measurement provisions in order to correct "underestimation" of peak field strength. NTIA Report at vi. AT&T agrees with NTIA that compliance measurements should be modified as necessary to ensure the most accurate estimation of peak field strength, and AT&T Labs is prepared to work with the Commission to refine the measurement process. NTIA also recommends frequency agility and power reduction for the elimination of interference, as well as mandatory registration of planned and deployed BPL systems. *Id.* at vii. As set forth above, AT&T supports establishment of a database that would track BPL deployment, provided that competitively sensitive deployment plans are

[9] The NTIA report can be accessed at http://www.ntia.doc.gov/ntiahome/fccfilings/2004/bpl/index.html

appropriately protected. With respect to frequency agility and power reduction, AT&T believes these interference mitigation capabilities have value, but the system provider should have the discretion to decide which mitigation technique to use in the event of harmful interference.

Conclusion

AT&T supports the Commission's efforts to promote the development of an alternative broadband path to American consumers. AT&T agrees with the Commission that application of the existing Part 15 emission limits and other Part 15 requirements should resolve interference concerns. For the reasons set forth above, AT&T respectfully submits that the Commission should refrain from imposing any additional interference mitigation requirements on BPL operators unless and until experience gained from initial BPL deployments demonstrates an actual need for such measures. Such restraint by the Commission will allow operators to devote the time, energy, and investment needed to deploy BPL successfully, and to thereby provide the Commission the information it requires to make an informed decision regarding the need for such measures.

Respectfully submitted,

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List of *NOI* Commenter References

Name	*Shorthand Reference*
Ambient Corporation	Ambient
Ameren Energy Communications Inc.	Ameren
Amperion, Inc.	Amperion
Electric Broadband	Electric Broadband
HomePlug Powerline Alliance	HomePlug Alliance
Main.net Communications Ltd.	Main.net
PowerWAN, Inc.	PowerWAN
PPL Telcom, LLC	PPL Telcom
Progress Energy, Inc.	Progress Energy
Southern LINC, Southern Telecom, Inc., Southern Company Services, Inc.	Southern Companies
United Power Line Council	UPLC